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B110/B205

AUTHORS: Gurvich, L. Ya., Khvoshchevskaya, K. A.

TITLE: Rapid method of determining the tendency of stainless steel to intercrystallite corrosion

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 5, 1961, 348, abstract 5N285 (5I285) ("Mezhkristallitn. korroziya i korroziya metallov v napryazh. sostoyanii." (Interocrystallite Corrosion and Corrosion of Metals in Stressed State) M., Mashgiz, 1960, 162-177)

TEXT: A rapid method is suggested for testing stainless steel for tendencies to interocrystallite corrosion in a solution of 20 %  $\text{HNO}_3$  + 1% NaF at about 20°C. [Abstracter's note: Complete translation.]

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DMITRIYEV, S.I., gornyy inzh.; MILOVANOV, I.B., gornyy inzh.; KHVOSHCHESKIY,  
N.M., gornyy inzh.

Using hydraulic mining methods and flexible roof support in the  
experimental working of the "Moshchnyi" seam in the "Ziminka" Mine  
no.3-4. Ugol' 35 no.9:6-9 S '60. (MIRA 13:10)

1. Kuznetskiy nauchno-issledovatel'skiy ugol'nyy institut i Vsesoyuznyy  
nauchno-issledovatel'skiy i proyektno-konstruktorskiy institut dobychi  
uglya gidravlicheskim sposobom.  
(Kuznetsk Basin--Hydraulic mining) (Mine timbering)

ZHABIN, G.I., inzh.; KHVOSHCHESKIY, N.M., inzh.

Arched shields used for the hydraulic mining of thin, steeply pitching seams. Trudy VNIIGidrouglia no.2:19-27 '63.

(MIRA 17:6)

1. Sibirskiy metallurgicheskiy institut (for Zhabin).
2. Vsesoyuznyy nauchno-issledovatel'skiy i proyektno-konstruktorskiy institut dobychi uglya gidravlicheskim sposobom (for Khvoshchevskiy).

TEODOROVICH, B.A., kand.tekhn.nauk; KHVOSHCHESKIY, N.M., inzh.;  
SAL'NIKOV, V.R., inzh.; ZAPREYEV, S.I., inzh.

Sublevel hydraulic coal breaking system with powered collapsible  
metal supports and their mechanized assembly in the erection area.  
Trudy VNIIGidrouglia no.1:25-32 '62. (MIRA 16:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy i proyektno-konstruktorskiy  
institut dobychi uglya gidravlicheskim sposobom (for Teodorovich,  
Khvoshchevskiy, Sal'nikov). 2. Kuznetskiy nauchno-issledovatel'skiy  
ugol'nyy institut (for Zapreyev).

KHVOSHCHESKIY, N.M.; LITVINENKO, A.S.

System of sublevel hydraulic breaking using flexible metal coverings in the "Koksovaya-1" Mine. Ugol' 40 no.1:24-27  
Ja '65. (MIRA 18:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy i proyektno-konstruktorskiy institut dobychi uglya gidravlicheskim sposobom (for Khvoshchevskiy). 2. Tröst Prokop'yevskugol' (for Litvinenko).

ELERT, G.K., gornyy inzh.; YAKOVLEV, Yu.P., gornyy inzh.; KHVOSHCHEVSKIY,  
N.M., gornyy inzh.; KOVALEV, V.M., gornyy inzh.

New blasting method for caving the roof in longwalls and layers.  
Ugol' 39 no.10:13-17 O '64. (MIRA 17:12)

1. VzryvPEU kombinata Kuzbassugol'.

KHVOSHCHEVSKIY, S.

21 (6) **PLASMA I IONOSPHERIC RESEARCH** 807/2001

International Conference on the Physical Basis of Atomic Energy, M., Moscow, 1958

Rebolyevskiy, V.I. (ed.) *Yadernaya fizika* (Reports of Soviet Scientists) (Moscow: Atomizdat, 1959. 328 p. (Series: Itogi Nauki, Vol. 1) 8,000 copies printed.

Ms. (Title page); A.I. Alkhimov, Akademik; V.I. Veksler, Akademik; and L.A. Vlasov, Akademik; *Uchenye zapiski fizicheskogo nauchnogo tsentra Akad. Nauk SSSR*, 1958, No. 1, p. 1. (Series: Itogi Nauki, Vol. 1) 8,000 copies printed.

**REMARKS:** This collection of articles is intended for scientific research workers and other persons interested in nuclear physics. The volume contains 13 papers presented by Soviet scientists at the Second Conference on Physical Basis of Atomic Energy, held in Moscow in September 1958.

**CONTENTS:** It is divided into two parts. Part I contains 17 papers dealing with plasma physics and controlled thermonuclear reactions, and Part II contains 26 papers on nuclear physics, including problems of particle penetration and of nuclear energy. The first paper by L.A. Arkharov presents a review of Soviet work on controlled thermonuclear reactions. The remaining papers in Part I deal with particular problems in this field.

Papers in Part II deal in detail with various problems in nuclear physics, such as the reaction of heavy atoms and their isotopes, and with the creation of cosmic radiation by means of artificial earth satellites and rockets, described in a paper by S.L. Verner. The Russian-language edition of the proceedings of the conference is published in 16 volumes. The first 6 volumes contain all the papers presented by Soviet scientists as follows: Volume (1), *Yadernaya fizika* (Moscow: Atomizdat, 1958); Volume (2), *Yadernaya fizika* (Moscow: Atomizdat, 1958); Volume (3), *Yadernaya fizika* (Moscow: Atomizdat, 1958); Volume (4), *Yadernaya fizika* (Moscow: Atomizdat, 1958); Volume (5), *Yadernaya fizika* (Moscow: Atomizdat, 1958); Volume (6), *Yadernaya fizika* (Moscow: Atomizdat, 1958). The articles in the remaining 10 volumes contain selected papers presented at the Conference by non-Soviet scientists. In the present volume discrepancies between the English and Russian language editions of the proceedings have been noted in three articles where the texts are not identical: V.I. Veksler, et al., "High Current Pulsed Discharge"; A.I. Alkhimov, et al., "High Frequency Plasma Oscillations"; and Arkharov, "Investigations of the Neutron Problem". The serial numbers of reports 2502 and 2504 are reversed in the English edition. Report 2511, by Kiselev, et al., is numbered 2506 in the English edition.

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L 9828-66 EWA(h)

ACC NR: AP6003970

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AUTHOR: Sarkisov, M. A.; Rokotyan, S. S.; Uspenskiy, B. S.; Sharov, A. N.;  
Zhulin, I. V.; Fedoseyev, A. M.; Korolev, M. A.; Khevyta, M. E.; Yermolenko, V. M.;  
Petrov, S. Ya.; Azar'yev, D. I.; Krikunchik, A. B.; Polyakov, I. P.; Sazonov, V. I.;  
Khvoshchinskaya, Z. G.; Kartsev, V. L.; Smelyanskaya, R. Ya.; Kozhin, A. N.;  
Losev, S. B.; Dorodnova, T. N.; Rubinchik, V. A.; Smirnov, E. P.; Rudman, A. A.

ORG: none

TITLE: Abram Borisovich Chernin

SOURCE: Elektricheskiye stantsii, no. 5, 1965, 93

TOPIC TAGS: electric engineering, electric engineering personnel

ABSTRACT: An engineer since 1929, A. B. Chernin has worked for years in developing new techniques and equipment for relay protection of electric power systems. In this 60th birthday tribute, he is credited with leading the group which produced the directives on relay protection, contributing to the development of a method for calculating transient processes in long distance 400-500 kv power transmission lines and with aiding in planning of the electric portions of power stations, substations and power systems. The results of his engineering and scientific work have been published 46 times, he is a doctor of technical sciences (since 1963), and has taught for 30 years at the Moscow Power Institute. Orig. art. has: 1 figure. [JPRS]

SUB CODE: 09 / SUEN DATE: none

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SOKOLOV, N.I., doktor tekhn.nauk (Moskva); GUREVICH, Yu.Ye., inzh.  
(Moskva); KHVOSHCHINSKAYA, Z.G., inzh. (Moskva)

Use of analog computers in studying the parallel operation of  
large turbogenerators. Elektrichestvo no.10:5-13 0 '63.  
(MIRA 16:11)

GUREVICH, Yu.Ye., inzh.; KHVOSHCHINSKAYA, Z.G., inzh.

Modeling of synchronous machines using electronic analog computers.  
Trudy VNIIE no.15:72-96 '63. (MIRA 16:12)

SOKOLOV, N.I., kand.tekhn.nauk, dotsent (Moskva); GUREVICH, Yu.Ye., inzh.  
(Moskva); KHVOSHCHINSKAYA, Z.G., inzh. (Moskva)

Use of analog computers for simulating a system with multiple  
generators. Elektrichestvo no.5:1-8 My '61. (MIRA 14:9)  
(Electric network analyzers)  
(Electric power distr'buton)

GUREVICH, Yu.Ye., inzh.; KHVOSHCHINSKAYA, Z.G., inzh.

Concerning an assumption in static stability calculations. Izv.  
vys. ucheb. zav.; energ. 7 no.3:1-9 Mr '64. (MIRA 17:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut elektroenergetiki (for Gurevich). 2. Moskovskiy ordena Lenina energeticheskiy institut (for Khvoshchinskaya).

KHVCHINSKIY, A.V.; KUZNETSOV, V.S.

Mechanization and automation of the charging of slag-forming  
and alloying materials into electric furnaces. Stal' 25 no.8:  
813-818 S '65. (MIRA 18:9)

1. Gosudarstvennyy soyuznyy institut po proyektirovaniyu  
metallurgicheskikh zavodov.

BIRYUKOV, V.A., kand. tekhn. nauk; KHVOSHCHEVSKIY, M.I., inzh.

Practical testing of high-temperature lumber kilns made by  
the State Latvian Design and Planning Scientific Research  
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KHVOSHCHINSKIY, N.V., inzh.; GUBINA, N.I., inzh.

Engineering protection in the reservoir area. Energ.stroi. no.23:  
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1. Ispolnyayushchiy obyazannosti glavnogo inzhenera stroitel'stva Kremenchugskoy gidroelektrostantsii (for Khvoshchinskiy).
2. Rukovoditel' gruppy proizvodstvenno-tekhnicheskogo otdeleniya stroitel'stva Kremenchugskoy gidroelektrostantsii (for Gubina).  
(Kremenchug Hydroelectric Power Station--Hydraulic structures)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 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2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053 2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2069 2070 2071 2072 2073 2074 2075 2076 2077 2078 2079 2080 2081 2082 2083 2084 2085 2086 2087 2088 2089 2090 2091 2092 2093 2094 2095 2096 2097 2098 2099 2100 2101 2102 2103 2104 2105 2106 2107 2108 2109 2110 2111 2112 2113 2114 2115 2116 2117 2118 2119 2120 2121 2122 2123 2124 2125 2126 2127 2128 2129 2130 2131 2132 2133 2134 2135 2136 2137 2138 2139 2140 2141 2142 2143 2144 2145 2146 2147 2148 2149 2150 2151 2152 2153 2154 2155 2156 2157 2158 2159 2160 2161 2162 2163 2164 2165 2166 2167 2168 2169 2170 2171 2172 2173 2174 2175 2176 2177 2178 2179 2180 2181 2182 2183 2184 2185 2186 2187 2188 2189 2190 2191 2192 2193 2194 2195 2196 2197 2198 2199 2200 2201 2202 2203 2204 2205 2206 2207 2208 2209 2210 2211 2212 2213 2214 2215 2216 2217 2218 2219 2220 2221 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ACCESSION NR: AP5019771

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539.184.26 : 546.36

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B

AUTHOR: Kallas, Kh.; Markova, G.; Khvostenko, G.; Chayka, M.

TITLE: Determination of the hyperfine structure constants of cesium from the crossing of magnetic sublevels

SOURCE: Optika i spektroskopiya, v. 19, no. 2, 1965, 303-306

TOPIC TAGS: cesium, hyperfine structure, spectral line, spectral energy distribution, Zeeman effect

ABSTRACT: This is a continuation of earlier work (Opt. i spektr. v. 17, 319, 1964) and is devoted to a more precise measurement of the magnetic fields for the crossing of the Zeeman sublevels of the  $7^3P_{1/2}$  state in cesium, and to similar measurements for the  $6^2P_{3/2}$  level. The magnetic field was produced by a pair of Helmholtz coils with constant  $C = 17.77 \pm 0.01$  Oe/amp, the coil axes being directed along the horizontal component of the earth's magnetic field. The vertical component was offset by supplementary coils. Three level crossings each were observed for  $7^3P_{1/2}$  and for  $6^2P_{3/2}$ . Expansion coefficients for the three level-crossing fields are calculated and tabulated. They agree with the published data for both  $7^3P_{1/2}$  and  $6^2P_{3/2}$ . Orig. art. has: 9 formulas and 1 table.

Card 1/2

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L 5426-66

ACCESSION NR: AP5019771

ASSOCIATION: none

SUBMITTED: 12Feb65

ENCL: 00

SUB CODE: OP

NR REF SOV: 002

OTHER: 001

*Chh*  
Card 2/2

*Khvostenko, G.I.*

AUTHORS	Ioffe, V.A., <u>Khvostenko, G.I.</u> , Zonn, Z.N.	57 - 9-10/40
TITLE	The Electrical Properties of Some Single Crystals and Polycrystalline Ferrites. (Elektricheskiye svoystva nekotorykh monokristallov i polikristallicheskikh ferritov.)	
PERIODICAL	Zhurnal Tekhn. Fiz., 1957, Vol. 27, Nr 9, pp.1985-1995 (USSR)	
ABSTRACT	The dependence of the specific resistance, of the dielectricity constant, and of the angle of dielectric losses on temperature at sound frequencies and for solid solutions of nickel-ferrite and zinc-ferrite, of magnesium-ferrite and manganese-ferrite as well as in the case of two single crystals and a ceramic sample of a solid solution of cobalt-ferrite and zinc-ferrite was investigated. All ferrites investigated have a high dielectricity constant within the range of low frequencies and high temperatures. The dependence of the dielectricity constant on frequency and temperature is due to relaxation processes. It is shown that the dielectricity constant of ferrites is a property that is independent of their poly-	

CARD 1/2

AUTHORS: Ioffe, V. A., Khvostenko, G. I. 20-118-4-23/61

TITLE: The Anomalous Dispersion of the Dielectric Constant in Feldspars (Anomal'naya dispersiya dielektricheskoy pronitsayemosti v polevykh shpatakh)

PERIODICAL: Doklady Akademii Nauk SSSR, 1958, Vol. 118, Nr 4, pp. 709-712 (USSR)

ABSTRACT: At first, the authors shortly report on the development of this problem. The present paper investigates the dielectric loss angle and the dielectric constant of potassium feldspar (orthoklase) and of sodium feldspar (albite) within the temperature range of from 20 to 500°K and within the range of frequencies of from 500 kilocycles to 5 Megacycles. The measurements were performed in vacuo, after the sample was heated to 500°K in an evacuated bell. The electrodes were applied by means of burning-in a silver paste. Measurements were conducted with a bridge circuit. A diagram illustrates the temperature dependence of  $\text{tg } \delta$  and  $\epsilon$  in orthoklase for frequencies of  $8.10^5$  and  $8.10^4$  cycles. The value of  $\text{tg } \delta$  is very small in orthoklase

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The Anomalous Dispersion of the Dielectric Constant in Feldspars 20-118-4-23/61

at temperatures of from 20 to 500°K ( $\sim 5 \cdot 10^{-4}$ ) and is little dependent upon temperature.- The dielectric constant retains its constant value of  $\epsilon = 6$ . From 200°K onwards  $\text{tg } \delta$  and  $\epsilon$  begin to increase sharply with growing temperature,  $\text{tg } \delta$  increasing by about two orders of magnitude. If the temperature is further raised,  $\text{tg } \delta$  remains constant. A sharp increase of  $\epsilon$  is also observed within the same temperature range. A second diagram illustrates the frequency dependence of  $\text{tg } \delta$  and  $\epsilon$  in orthoklase at the temperatures 297°K, 399°K and 246°K. The maximum of  $\text{tg } \delta$  at all three temperatures is found at the frequency  $\sim 4,5 \cdot 10^5$  cycles. The frequency of the maximum is independent from temperature. A second, wider maximum is observed at a frequency of  $2 \cdot 10^6$  cycles at a temperature of 297°K. Further numerical data are given. The dielectric constant decreases within the range of low frequencies at all temperatures investigated, when the frequency is increased, then passes through a maximum at the frequency of  $2 \cdot 10^5$  cycles, and through a low minimum at  $4,5 \cdot 10^5$  cycles. Then the dielectric constant increases again

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The Anomalous Dispersion of the Dielectric Constant in Feldspars 20-118-4-23/61

up to a value of  $\sim 6,3 \cdot 10^5$  cycles. A further diagram illustrates the temperature dependence of  $\text{tg } \delta$  and of  $\epsilon$  in albite at the frequencies  $8 \cdot 10^5$  and  $8 \cdot 10^4$  cycles. This temperature dependence shows the same character as in orthoklase. Similar dependences were also obtained by the authors for plagioklase, which consists of a solid solution of sodium- and potassium feldspars. An anomalous dispersion of  $\epsilon$  also exists in plagioklase, the range of dispersion, however, is somewhat lower, within the frequency range of  $\sim 10^5$  cycles. The here obtained temperature dependences of  $\text{tg } \delta$  and of  $\epsilon$  in feldspars can neither be explained by conduction processes, nor by relaxation processes. This also holds for the temperature dependence of  $\text{tg } \delta$ . Such a temperature dependence can obviously be explained by resonance phenomena. The resonance phenomena observed in feldspars are obviously caused by electron processes.

There are 4 figures, and 2 references, 1 of which is Soviet.

Card 3/4

The Anomalous Dispersion of the Dielectric Constant in Feldspars 20-118-4-23/61

ASSOCIATION: Institut khimii silikatov Akademii nauk SSSR  
(Institute for Silicate Chemistry, AS USSR)

PRESENTED: August 19, 1957, by A. F. Ioffe, Member of the Academy

SUBMITTED: August 16, 1957

AVAILABLE: Library of Congress

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**Сырттоба, Э. Н.**

3rd All-Union Conference on the Viarous State  
Stable : karsika. 1960. Nr 3, pp 43-46 (1960)

[illegible]

At the 15th meeting, 7 reports dealt with the investigation of the effects of sodium-borate-tellurite glasses, 1, A. K. KUTZ, "The Effect of Sodium and Alkalinophorous Anionity of the Phosphate Glasses of Silicate Glasses" (To. 1. Calcutta). On the Coordination of the Boron in the Borate Glasses, 2, P. DEDAWAY reported the results of his work on the structure of boron in silicate glasses. To. 2. Bombay reported the structural changes in boron-tellurite glasses, To. 3. Bombay reported the structural changes in boron-tellurite glasses, To. 4. Bombay reported the structure of boron-tellurite glasses and their porous products; To. 5. Perry-Gouldie and E. S. LINDVALL, "Sphalerite-type Tellurite Glasses: the Structure of Tellurite Glasses", To. 5 reports on

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B006/B017

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AUTHORS: Ioffe, V. A., Khvostenko, G. I.

TITLE: Electrical Conductivity of Sodium-aluminum-silicate Glasses

PERIODICAL: Fizika tverdogo tela, 1960, Vol. 2, No. 3, pp. 509-516

TEXT: The authors investigated the electrical conductivity of glasses of the system  $\text{Na}_2\text{O} \cdot x \text{Al}_2\text{O}_3 \cdot (y-x) \text{SiO}_2$  with  $y = 2, 3, 4$ , and 6 and  $x$  from 0 to 1.1. The aim of the present investigations was to find out whether a second type of charge carrier exists in these glasses (it has been assumed already earlier that the electrical properties of these glasses are not only determined by ionic but also by electronic processes). They also wanted to investigate the dependence of conductivity on the  $\text{Na}_2\text{O}$  content and the structure at very low temperatures and in the range 15 - 240°C. The composition of the glasses investigated is given in a Table (p. 510). Conductivity was measured electrometrically (Fig. 1), the apparatus made it possible to measure currents of down to  $10^{-14}\text{a}$ ; voltage sensitivity was  $10^{-3}\text{v/graduation}$ . All measurements were made in vacuum,

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Electrical Conductivity of Sodium-aluminum-silicate Glasses

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after a continuous heating of the sample at 250°. Since the initial amperage could not be measured, the time dependences of "charge" and "discharge" of the sample were determined and then extrapolated for  $t = 0$  both graphically as well as by computation. Figs. 2 - 5 show  $\log \sigma = f(1/T)$  of four series of glasses. The following results were obtained: The electrical conductivity in the glasses investigated does not depend on the  $\text{Na}_2\text{O}$  content; it is determined by the ratio between the number of the aluminum-oxygen tetrahedra and the number of silicon-oxygen tetrahedra in the structural lattice, i.e., by  $\text{Al/Si}$ . With increasing  $\text{Al/Si}$ , electrical conductivity increases, whereas the activation energy  $U$  and the number of carriers decreases. The electrical conductivity of two glasses may be expressed by the formula  $\sigma = \sigma_0 \exp(-U_1/kT) + \sigma'_0 \exp(-U_2/kT)$  which

indicates that in these glasses two types of carrier exist. The authors assume that in the second type electrons are concerned. The resulting dependence of  $\sigma$ ,  $U$ , and  $\sigma_0$  on the composition (Figs. 7 - 10) may be explained by a change of the ratio of the fractions of ionic and electronic conduction in these glasses. N. M. Verebeychik and V. I. Odilevskiy are mentioned. There are 10 figures, 1 table, and 4 references:

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Electrical Conductivity of Sodium-aluminum-  
silicate Glasses

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3 Soviet and 1 Swiss.

ASSOCIATION: Institut khimii silikatov AN SSSR Leningrad (Institute of  
Silicate Chemistry of the AS USSR, Leningrad)

SUBMITTED: June 4, 1959

Card 3/3

KHVOSTENKO, N.M.; CHZHAN VYE-GAN; ROGOVIN, Z.A.

New method of preparing cellulose materials possessing water-repellent properties. Zhur.prikl.khim. 34 no.3:656-659 Mr '61.  
(MIRA 14:5)

1. Moskovskiy tekstil'nyy institut.  
(Cellulose)

ROGOVIN, Z.A.; SUN' TUN [Sun' T'ung]; VIRNIK, A.D.; KHVOSTENKO, N.M.

Synthesis of new derivatives of cellulose and other polysaccharides.  
Part 19: Synthesis of cellulose graft copolymers and carbochain  
polymers without a simultaneous formation of homopolymers.  
Vysokom.soed. 4 no.4:571-576 Ap '62. (MIRA 15:5)

1. Moskovskiy tekstil'nyy institut.  
(Cellulose) (Polymerization)

KHVOSTENKO, V. I.

AUTHORS: Khvostenko, V. I., Dukel'skiy, V. M., 56-4-4/54

TITLE: The Formation of Negative H-ions when Electrons Collide with Hydrogen Molecules (Obrazovaniye otritsatel'nykh ionov H-pri stolknoveniyakh elektronov s molekulami vodoroda)

PERIODICAL: Zhurnal Eksperim. i Teoret. Fiziki, 1957, Vol. 33, Nr 4, pp. 851-855, (USSR)

ABSTRACT: The experiments were carried out with a mass spectrometer, where the stream of ions was measured by a multiplier. This latter had a multiplication factor of 1000 for H-ions of 1000 eV. Attention was paid to special purity of the H<sub>2</sub>-gas. A narrow maximum at 14,5 eV may be seen from the curve showing the dependence of the yield of H-ions on the energy of the electrons. This maximum is to be attributed to a resonance trapping of the electrons by the H<sub>2</sub>-molecules. The formation of H-ions at higher electron energies is probably to be traced to the fact that the H<sub>2</sub>-molecules are dissociated into positive and negative ions by the electron bombardment. There is 1 figure.

ASSOCIATION: Leningrad Physico-Technical Institute AN USSR (Leningradskiy fiziko-tekhnicheskii institut Akademii nauk SSSR)

SUBMITTED: April 23, 1957

AVAILABLE: Library of Congress  
Card 1/1

*KVOSTENKO, V. I.*  
KVOSTENKO, V. I. and DUKELSKIY, V. M. Prof.  
Leningrad Phys. Tech. Inst.

"Formation of Hydrogen Negative Ions on Collisions with Hydrogen Molecules,"

Paper presented by Dukelskiy at Conf. on Physics of Electronic & Atomic Collisions  
New York University, 27 -28 Jan 1958.

B - 3, 102, 929



AUTHORS: Khvostenko, V.I., Dukel'skiy, V.M. 56-34-4-50/50

TITLE: The Negative Ion  $H_2^-$  (Otritsatel'nyy ion  $H_2^-$ )

PERIODICALS: Zhurnal eksperimental'noy i teoreticheskoy fiziki  
1958, Vol. 34, Nr 4, pp. 1026 - 1027 (USSR)

ABSTRACT: As far as the authors know the negative ion  $H_2^-$  has  
as yet nowhere been observed. The authors tried to  
ascertain the existence of such ions, using the method  
of "Re-charging" for this purpose. Steam and antimony  
vapors were at the same time introduced into the ion  
source and were exposed to the action of an electron  
beam (0.3 milliamperes, 80 eV). The negative ions  
formed were analyzed by means of a mass spectrometer  
equipped with an electron multiplier tube. In the  
presence of steam in the ion source the ions  $H^-$ ,  $O^-$  and  $OH^-$   
were observed. In the subsequent introduction of antimony  
vapors to the source the ions  $Sb^-$ ,  $Sb_2^-$  and  $Sb_3^-$  addi-  
tionally occur as well as at the same time negative ions  
of the mass 2. In the spectrum of the ions maxima were

Card 1/2

The Negative Ion  $H_2^-$

56-34-4-50/60

determined which correspond to the mass numbers 0.5; 3 and 6. These maxima must be attributed to fraction-ions which were formed during the dissociation of the primary ions. The maxima corresponding to the mass numbers 0.5; 3 and 6 could be suppressed by applying a retarding potential of 1500 V to the first diode of the multiplier. The maxima corresponding to the masses 1 and 2 hardly varied at all and were obviously dependent on primary ions formed in the source. All observations tend to show that the observed negative ions of the mass 2 are  $H_2^-$ -ions. There are 4 references, 2 of which are Soviet.

ASSOCIATION: Fiziko-tekhnicheskiy institut Akademii nauk SSSR (Institute of Physics and Technology, AS USSR)

SUBMITTED: January 15, 1958

1. Lower-Physical properties

Card 2/2

KHIVOSTENKO, V. I.: Master Phys-Math Sci (diss) -- "The formation of negative and positive ions in hydrogen". Leningrad, 1959. 10 pp (Acad Sci USSR, Phys-Tech Inst), 150 copies (KL, No 13, 1959, 100)

21(8),24(3)

AUTHORS: Khvostenko, V. I., Dukel'skiy, V. M. SOV/56-37-3-10/62

TITLE: The Formation of Negative Hydrogen Ions on the Surface of Incandescent Tungsten

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959, Vol 37, Nr 3(9), pp 651-653 (USSR)

ABSTRACT: For the purpose of determining the electron affinity of the hydrogen atom, the authors investigated the production of  $\text{H}^-$  ions on an incandescent tungsten surface by means of an apparatus, which is shown schematically in figure 1. On the basis of quantum-mechanical calculations this value is given as 0.754 ev in reference 1. By using this value one obtains  $6 \cdot 10^{-9}$  for the probability of an  $\alpha$ -capture of an electron by a hydrogen atom which evaporates on a tungsten surface at 2400°K (work function of tungsten 4.5 ev). The  $\text{H}^-$ -ions may not only form on the cathode but also in the surrounding space 1) by electron impact, either from  $\text{H}_2$  or also from  $\text{H}_2\text{O}$ . 2) by radiation capture of slow electrons by hydrogen atoms; the latter are formed on the dissociation of hydrogen molecules on the incandescent tungsten surface. The authors have

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The Formation of Negative Hydrogen Ions on the  
Surface of Incandescent Tungsten

SOV/56-37-3-10/62

already shown (Ref 2) that process 1) does not take place, if the energy of the electrons is smaller than 5 ev. Figure 2 shows the measured dependence of the ratio  $I_{ion}/I_{el}$  on the temperature of the cathode within the range 2200-2900°K (hydrogen pressure  $2 \cdot 10^{-4}$  Hg,  $V = 3.0$  v). The  $H^-$ -ion current  $I_{ion}$  was of the order of magnitude  $10^{-16}$  a, the noise level was 10 to 20 times smaller ( $I_{el}$  denotes the electron current). The curve shows a maximum at about 2600°K. If  $\alpha \ll 1$ ,  $i_{ion} = \epsilon n_0 A \exp\{\epsilon(S - \varphi^*)/kT\}$  holds for the negative ion current density;  $n_0$  denotes the number of atoms evaporated by 1 cm<sup>2</sup> cathode surface per second.  $\epsilon\varphi^*$  is the effective work function for a polycrystalline surface.  $i_{el} = BT^2 \exp(-\epsilon\varphi_R/kT)$  holds for the electron current density. By making use of these formulas the electron affinity  $\epsilon S$  of the hydrogen atom may be calculated as amounting to  $(0.8 \pm 0.1)$  ev. There are 2 figures

Card 2/3

The Formation of Negative Hydrogen Ions on the  
Surface of Incandescent Tungsten

SOV/56-37-3-10/62

and 5 references, 3 of which are Soviet.

ASSOCIATION: Leningradskiy fiziko-tekhnicheskiy institut Akademii nauk  
SSSR (Leningrad Physico-technical Institute of the Academy  
of Sciences, USSR)

SUBMITTED: April 13, 1959

Card 3/3

ACCESSION NR: AP4037571

S/0056/64/046/005/1605/1607

AUTHORS: Khvostenko, V. I.; Sultanov, A. Sh.

TITLE: Formation of negative aluminum, gallium, indium, and thallium ions by interaction between electrons and the halides of these elements

SOURCE: Zh. eksper. i teor. fiz., v. 46, no. 5, 1964, 1605-1607

TOPIC TAGS: negative ion, ion formation, halide, aluminum, gallium, indium, thallium, mass spectrometer, electron capture

ABSTRACT: The purpose of the investigation was to determine the feasibility of producing negative aluminum, gallium, indium, and thallium ions by interaction between the molecules of halides of these elements with electrons. A magnetic mass spectrometer was used to observe and identify the ions, which were recorded with an open electron multiplier. The negative gallium and indium ions were

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ACCESSION NR: AP4037571

observed for the first time. The negative ions of aluminum, indium, and thallium were produced by resonance capture of the electrons by the molecules, followed by the dissociation of the latter into negative ions and neutral halogen atoms, since they were observed only over a narrow range of electron energies (2--4.5 eV for aluminum, 0--3 eV for indium). The dependence of the negative ion yield on the electron energy was investigated in detail for thallium halides, and the production potentials of thallium ions and other positive and negative ions were carefully determined. The results will be published in a separate communication. "In conclusion, the authors thank Professor V. M. Dukel'skiy for suggesting the problem and directing the work." Orig. art. has: 1 figure.

ASSOCIATION: Institut organicheskoy khimii Bashkirskogo filial Akademii nauk SSSR (Institute of Organic Chemistry, Bashkir Branch, Academy of Sciences SSSR)

Card 2/42



07-2697-52  
ACCESSION NO. AP-0006700  
AUTHOR: Kozlovskiy, V. I.; Silin, A. S.  
TITLE: Ionization of TlCl, TlBr and TlI molecules by electron impact  
SOURCE: Zhurnal fizicheskoy khimii, v. 39, no. 2, 1965, 475-478  
TOPIC TAGS: salt ionization; thallium chloride; thallium bromide; thallium iodide; electron impact ionization; ion yield; electron bombardment; mass spectroscopy; dissociation energy  
ABSTRACT: The ionisation of thallium Chloride, bromide and iodide by electron impact and the effect of electron energies on ion yields was determined by mass spectrometry. The potentials for formation of positive and negative ions were measured and plots of electron energy vs. ion yields were presented (see Fig. 1 and 2 of the Enclosure). Dissociation energies for TlCl, TlBr and TlI were calculated and the energy of electron affinity for Tl atom was estimated as  $0.5 \pm 0.1$  ev. Negative Cl<sup>-</sup> ions were shown to be formed by TlCl dissociation and also via formation of negative thallium chloride ions by electron capture  
$$\text{TlCl} + e^- \rightleftharpoons (\text{TlCl})^{-\bullet} \rightarrow \text{Ti} + \text{Cl}^-$$

Case 1:14-cv-01001 Document 1-1 Filed 07/27/14 Page 1 of 1

1 17697-65

ACCESSION NO. AF5006/00

without negative thallium ions were formed only by the reaction



X being halogen. "The authors thank Prof. V. N. Lukal'skiy for his guidance."

0-15. art. 2 figs. and 2 tables.

ASSOCIATION: Institut organicheskoy khimii, Dzhukovskiy filial, Akademii nauk  
SSSR (Institute of Organic Chemistry, Dzhukovskiy Branch, Academy of Sciences, SSSR)

SUBMITTED: 05.04.65

ENCL: 02

SUB CODE: 10, NP

ED KEY 807: 005

OTHER: 009

Cont. 2/4

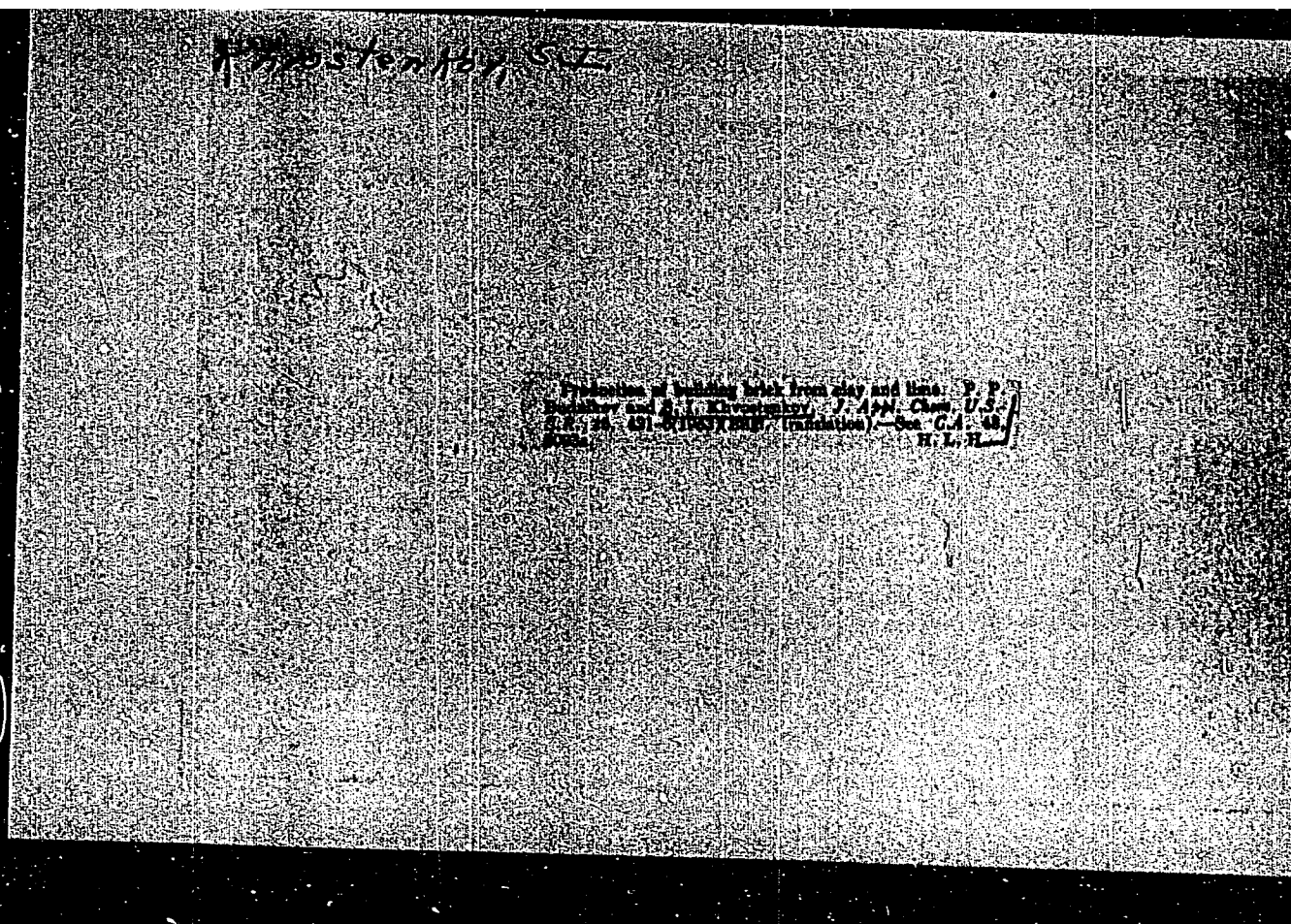
KHVOSTENKO, V.V.; ADAMOV, E.V.

Interfactory schools for the exchange of progressive practices in the field of controlling technological processes in nonferrous metal ore dressing plants. TSvet.met. 35 no.2:79-80 F '62.  
(MIRA 15:2)

(Ore dressing—Study and teaching)

KHVOSTENKOV, S.I., inzhener.

New shape of a heat exchanger for a rotary kiln. TSement 19 no.6:22-23  
H-D '53. (Kilns, Rotary) (Heat exchangers) (MLRA 6:12)



KHVOSTENKOV, S.I.

Jour. of the Amer.  
Ceramic Soc.  
Vol. 37 No. 3  
March 1954  
Cements, Limes, and  
Plasters

Study of conditions of formation of clay-lime structural materials. P. P. BUDNIKOV AND S. I. KHVOSTENKOV. *Zhur. Priklad. Khim.*, 26 [5] 457-63 (1953). Various clay-lime specimens were tested by chemical, thermographic, and mechanical methods before and after hydrothermal treatment to determine the effect of technological factors on hardening. Data (tabulated and graphical) are given on chemical composition, dehydration, strength as a function of the temperature of preliminary treatment of clay, strength as a function of steam pressure in the autoclave, strength vs. CaO content in mixtures, strength vs. pressure of shaping, and strength vs. degree of moistening. B.Z.K.

Khvostenkov, S. I.

Effect of profile of rotary furnace on dust carry-out. S. I. Khvostenkov. Thermal 20, No. 6, 8-10(1964).—Calculation for various rotary furnaces. These indicate that, when greatest lifting force of gas stream is at 1000-1200°, the burning zone is the chief center for dust carry-out. Furnace diam. should be of one size. B. Z. Kamich

KHVOSTENKOV, S. (g.Kramatorsk); MORDUKHOVICH, M. (g.Kramatorsk); LAPOTNIKOV,  
V. (g.Kramatorsk).

Colored slate. Stroimaterial, izdel. i konstr. 2 no.2:16 F'56.

(MIRA 9:6)

1.Glavnyy inzhener tsementnogo zavoda (for Khvostenkov).2.Nachal'nik  
laboratorii (for Mordukhovich).3.Glavnyy inzhener Kramatorskogo  
shifernogo zavoda (for Lapotnikov).  
(Roofing, Slate)



*KH Vostenkov, S.I.*

✓ Study of conditions of formation of clay-lime structural materials. P. F. HUPNIKOV AND S. I. KNYOSTINKOV. Translated in *Sovetsk. 6* (4) 161-63 (1955). For abstract see *Ceram. Abstr.*, 1954, March, p. 459.

MS HA

*Metals*  
*pm*

KHVOSTENKOV, S.I., inzh.

Choosing the shape of a rotary kiln with regard to the problem of dust disposal. Nauch.socob.NIITSementa no.7:25-30 '60. (MIRA 14:5)

1. Institut Sevkavgipromstom.  
(Kilns, Rotary) (Dust--Removal)

KHVOSTENKOV, S.I.

Reinforcing the lining of a rotary kiln. TSement 26 no.5: 29 S-O '60.  
(MIRA 13:10)

(Kilns, Rotary)

KHVOSTENKOV, S. I., Cand. Tech. Sci. (diss) "Investigation of Effect of Physical-chemical Properties of Raw Materials and Some Technological Factors on Dust-catcher of Rotating Cement-Roasting Ovens," Moscow, 1961, 19 pp. (Moscow Chem. Engr. Inst.) 180 copies) (KL Supp 12-61, 276).

KHVESTENKOV, S.I., inzh.; CHERNOBAYEVA, N.I., inzh.

Utilization of cement dust recovered by electric filters in  
the manufacture of silicate materials. Stroi.mat. 8 no.3:11-12  
Mr '62. (MIRA 15:8)

(Sand-lime products)

KHVOSTENKOV, S.I.

Strength of granules and briquettes made of cement raw material  
when heated. Trudy MKMTI no.36:144-147 '61. (MIRA 15:7)  
(Cement--Testing)

KHVOSTENKOV, S.I., inzh.

Changes in the physicochemical properties of cement raw material  
during heating. Nauch. soob. NIITSementa no.12:17-24 '61.  
(MIRA 15:7)

1. Novorossigiprotsement.  
(Cement—Testing)

KHVOSTENKOV, S.I.; CHERNOBAYEVA, N.I. SEMKIN, V.I.

Physicochemical properties and utilization of recovered dust.  
TSement 28 no.3:16-17 My-Je '82. (MIRA 15:7)

1. Novorossyiprotsement.  
(Dust)  
(Cement plants)



ANDROSOV, A.A.; KHVOSTENKOV, S.I.; CHERNOBAYEVA, N.I.

Adoption of an experimental industrial unit for burning  
clinker in a fluidizing bel. Sbor.trud. Novorossiyskiy protsement  
no.1:3-16 '61. (MIRA 16:2)  
(Cement plants)

KHVCSTENKOV, S.I.

Physicochemical properties of the raw material and choosing a  
method of producing cement. Sbor.trud. Novorossiyskoprotssemta  
no.1:17-33 '61. (MIRA 16:2)

(Cement plants)

KHVOSTENKOV, S.I.

Study of the chemism of the hardening of autoclaved clay-lime  
building materials. Sbor.trud. Nevorossigiprotsementa no.1:44-54  
'61. (MIRA 16:2)

(Building materials--Testing)

KHVESTENKOV, S.I., kand. tekhn. nauk

Constant or variable profile of rotary kilns? TSement 30  
no.1:12-14 Ja-F '64. (MIRA 17:8)

1. Novorossiysk protsement.

KHVOSTENKOV, Y. S. and FUDNIKOV, P. P.

"Investigation of Favorable Conditions for the Manufacture of Construction Material from Lime and Clay," translated into German in Silikattechnik, Vol. 6, No 4, p.161-2, 181, Apr 54.

OCHKUROV, V.G., KHVOSTIK, G.I.

The IS-2 feed-grinder. Trakt. 1 sel'khoz mash. 32 no. 7:27-28 J1 '62.  
(MIRA 15:7)

(Feed grinders)

VERTSMAN, G.Z.; KHVOSTIK, I.F.

Plan for introducing new machinery in surveying railroad lines. Transp.stroi. 10 no.2:4-8 F '60.

(MIRA 13:5)

1. Rukovoditel' otdeleniya izyskaniy i proyektirovaniya Vsesoyuznogo nauchno-issledovatel'skogo instituta transportnogo stroitel'stva (for Vertsman). 2. Glavnyy inzhener Glavtransporoyekta (for Khvostik).

(Railroads--Surveying)

LYUTS, Aleksandr Fedorovich, prof.; SOROKIN, Vasilii Pavlovich, dots.;  
PINKOVSKAYA, Tamara Semenovna, dots.; KOKOVIKHIN, Mikhail  
Fedorovich, inzh.; KIRILENKO, Vasilii Sergeyevich, kand. tekhn.  
nauk; BELIKOV, Ye.F., dots., retsenzent; KHVOSTIK, I.P., red.;  
KOMAR'KOVA, L.M., red.izd-va; SUNGUROV, V.S., tekhn. red.

[Surveying in railroad engineering] Geodeziia v zheleznodorozh-  
nom dele; spravocnoe posobie. [By] Liutts, A.F. i dr. Moskva,  
Geodezizdat, 1962. 342 p. (MIRA 16:1)  
(Railroads—Surveying)



L 23951-66

EWT(d)/EWT(m)/EWP(v)/EWP(t)/EWP(k)/EWP(h)/EWP(1) IJP(o) JD/HW

ACC NR: AP6009820

SOURCE CODE: UR/0413/66/000/004/0011/0011

AUTHOR: Sukhorukov, N. A.; Lavrent'yev, V. M.; Khvostik, V. P.

ORG: none

TITLE: A method for stamping pipes. Class 7, No. 178778

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 4, 1966, 11

TOPIC TAGS: pipe, metal stamping, metal pressing

ABSTRACT: This Author's Certificate introduces a method for stamping pipes on presses with a single container. The length of the stamping cycle is reduced by using a punch to remove the waste from the pipe at the end of the working stroke of the press. The waste is extracted from the container and cleaned from the punch on the reverse stroke.

SUB CODE: 13/

SUBM DATE: 05Nov62/

ORIG REF: 000/

OTH REF: 000

UDC: 621.774.381.7 : 621.774.38.073

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L 23944-66 EWT(d)/EWT(m)/EWP(v)/EWP(t)/EWP(k)/EWP(h)/EWP(l) IJP(c) JD/HW

ACC NR: AP6009821

SOURCE CODE: UR/0413/66/000/004/0011/0011

AUTHOR: Sukhorukov, N. A.; Lavrent'yev, V. M.; Khvostik, V. P.

ORG: none

TITLE: A tool for stamping pipes. Class 7, No. 178779

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 4, 1966, 11

TOPIC TAGS: die, metal stamping, pipe, metal pressing

ABSTRACT: This Author's Certificate introduces a tool for stamping pipes. The unit contains a die with a punch in the center. A stamping cycle is completed on one double stroke of the press. There is a hollow section in the leading end of the die which accommodates a catch on the punch. This catch is used for moving the punch and for cutting off the stamping waste. A section of this catch is turned down on a lathe for picking up the stamping waste on the punch to extract it from the container. The punch can be moved in the die so that there is a gap between the lower end of the tail section of the punch and the end of the hollow in the die where the punch is located. This makes it possible to shift the punch in the axial direction with respect to the die on the reverse stroke of the press so that a device for removing the stamping waste may enter the press between the catch on the punch and the die.

SUB CODE: 13/

SUBM DATE: 05Nov62/

ORIG REF: 000/

OTH REF: 000

UDC: 621.774.381.7 ;

621.774.38.073

Cord 1/1

ALEKSANDROVICH, G.L., dotsent (Khabarovsk, ul. Kalinina, d.71, kv.19);  
KHOVOSTIKOV, G.P.

Repair of defects of the large intestine by the Nicoladoni-Reichel  
method. Nov.khir.arkh. no.5:89-93 S-0 '59. (MIRA 13:3)

1. Kafedra fakul'tetskoy khirurgii Khabarovskogo meditsinskogo  
instituta.

(INTESTINES--TRANSPLANTATION)

KHVOSTIKOV, G.Ye., inzh.; SEMENKOV, I.L., inzh.

Longwall timbering in connection with the operation of the UKR  
cutter loader. Ugol.prom. no.5:28-30 S-0 '62. (MIRA 15:11)

1. Donetskiy nauchno-issledovatel'skiy ugol'nyy institut.  
(Mine timbering)

KHVOSTIKOV, I. A.

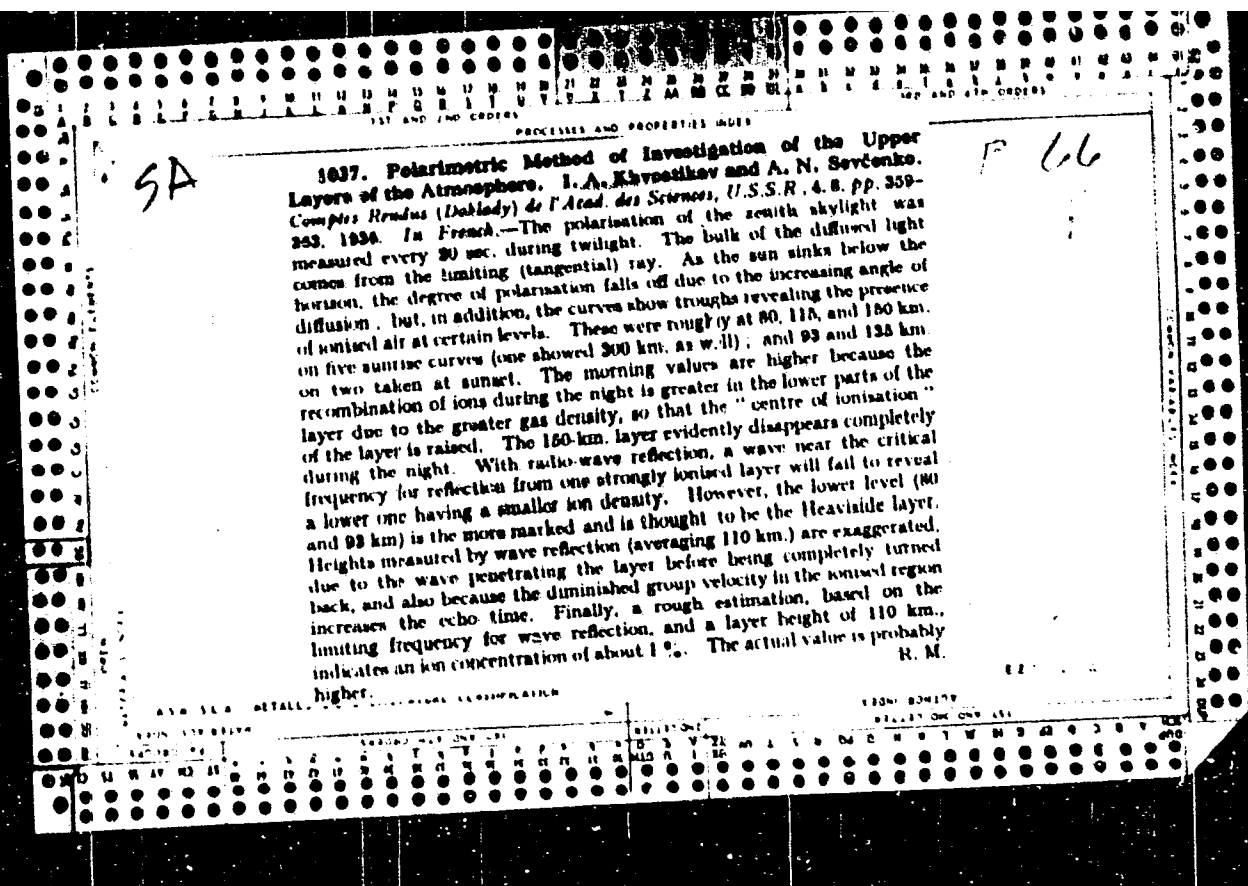
82

153

235. Fluorescence of Solutions of Platincyanides. I. K. Khvostikov, *Comptes Rendus de l'Acad. des Sciences, U.R.S.S.* 4, pp. 16-20, Oct. 11, 1954. In German.—So far attempts to make solutions of platincyanides fluorescence have failed, indicating that the fluorescence of the salt is due to impurities and is not an inherent property. The authors, however, have now obtained solutions of platincyanides which show appreciable fluorescence. The aqueous solution of potassium platincyanide shows a spectrum having 2 bands with maxima at 635 and 665  $\mu$ . The latter band is the same as one of the crystal bands. The absorption spectrum shows maxima at 284 and 279  $\mu$ . Measurements of the polarization of the fluorescence with various solvents give by use of the Perrin formula a time for the life of the excited molecule as about  $3 \times 10^{-10}$  sec. Another estimate of this life was made by use of the theory of quenching by foreign substances. This gave  $1.6 \times 10^{-10}$  sec. A third method depending on the effect of foreign substances on the polarization gave a life of  $3.8 \times 10^{-10}$  sec. J. E.

ALU 51.4 METALLURGICAL LITERATURE CLASSIFICATION

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PROCESSES AND PROPERTIES INDEX																																																			
<div>Ca</div> <div>3</div> <p>The fluorescence of cyanoplatinite solutions. I. A. Khvostikov. <i>Physik. Z. Sowjetunion</i> 9, 210-36 (1936); cf. <i>C. A.</i> 30, 2069. — The following addnl. results have been established with regard to the fluorescence of cyanoplatinite solutions. The absolute fluorescence emission of <math>K_2Pt(CN)_4</math> solns. amounts to <math>4\frac{1}{2}\%</math>. The duration of the excited states would be <math>5.6 \times 10^{-8}</math> sec. without extinction. No effect of the concn. on the extinction was observed. The fluorescence emission was found to increase by a factor of 7-9 in lowering the temp. from <math>80^\circ</math> to <math>-21^\circ</math>. Of the 2 absorption bands, at 255 and 280 <math>m\mu</math>, only the latter is active in inducing fluorescence. The polarization of the fluorescent radiation is maximal (about 28%) at 315 <math>m\mu</math>. Mueris Muskat</p>																																																			
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<p>fluorescence of cyanoplatinite solutions. I. A. Khvostikov, <i>Tran. Optical Inst. Leningrad</i> 12, 141 (1953) [English 37 81(1953), et. C. A. 30, 15-12]. The fluorescence is due to the <math>\text{Pt}(\text{CN})_4^{2-}</math> ion. The fluorescence may be quenched by foreign substances. The emission and absorption spectra are identical for all the cyanoplatinites. The abs. fluorescence yield was found to be 4.7%. For the active absorption band, the fulfillment of Einstein's law of const. quantum yield has been proved, thus the abs. yield of fluorescence varies inversely as the frequency of the exciting light. H. L. Fessenden</p>																																																																																																							
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568. Diffuse Light from the Sky. I. A. Khvostikov. *Comptes Rendus (Doklady) de l'Acad. des Sciences, U.S.S.R.* 17. 4. pp. 195-197, 1937. In French. Observations were made in the stratosphere at a height of from 8 to 10 km. The distribution of energy in the spectrum is measured. Comparison with the theoretical curve, calculated from Rayleigh's fourth power law for dispersion shows that the diffuse light of the atmosphere is richer in blue rays than this law requires; a law with an exponent  $n = 5.3$  in place of  $n = 4$  will fit the results. The degree of polarization for different wave-lengths is also measured. Experiments were made on the 9th and the 22nd of March and the differences observed are regarded as being due to the motion of the aerostat. The degree of polarization diminishes towards the blue end of the spectrum. An explanation, based on the existence of secondary diffusion, is put forward and discussed. G. G.

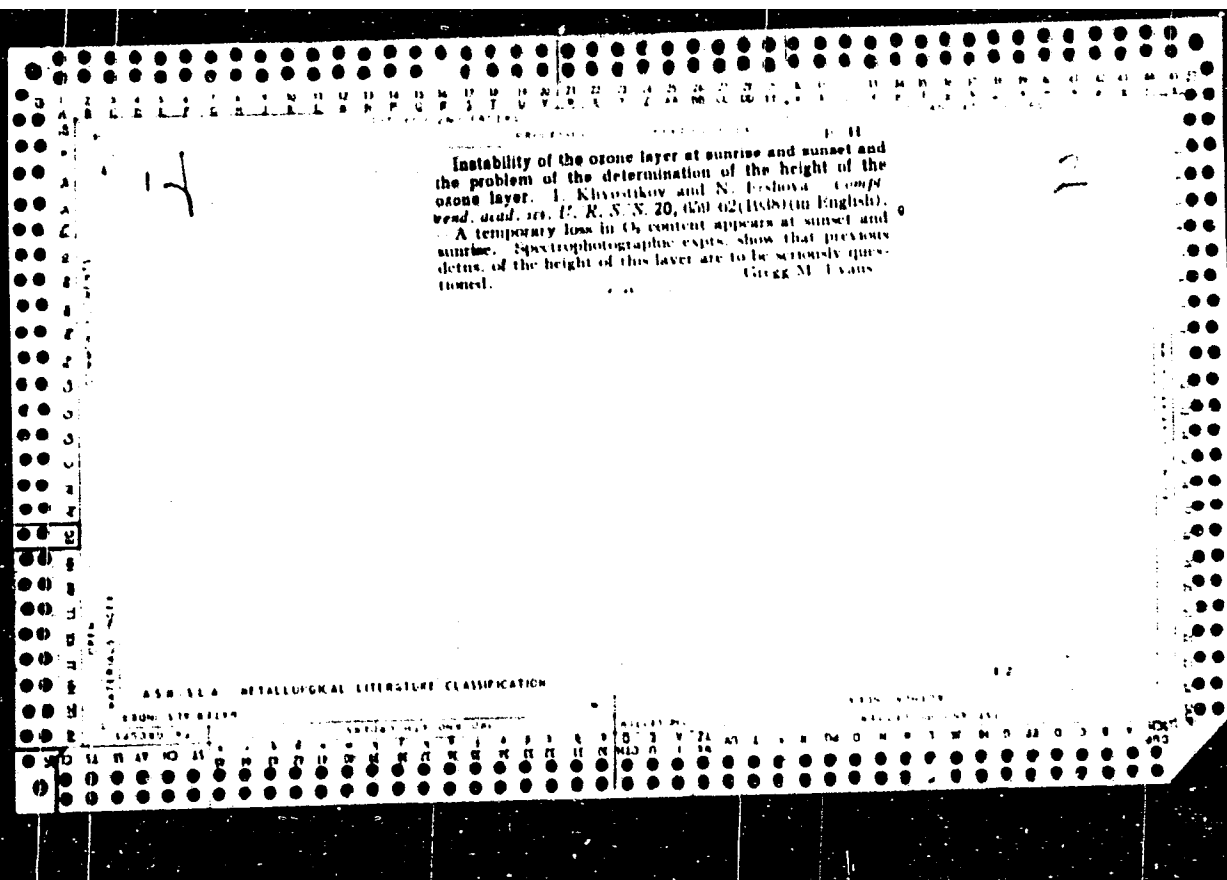
ASAC 568 METALLOGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDER										3RD AND 4TH ORDER									
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<p> <b>CA</b> </p> <p> <b>2</b> </p> <p> An outline of the physics of the terrestrial atmosphere.  1. A. Khramov: <i>Uspekhi Fiz. Nauk</i> 19, 69-73, 145-  04 (1955).--A review of the following problems: (1) struc-  ture of the atm., (2) temp. of the upper stratosphere  layers and (3) atm. ozone. Fifty-eight references.  S. L. Madorsky </p>																			
<p> <b>ASB-5LA METALLURGICAL LITERATURE CLASSIFICATION</b> </p> <p> <b>13000 DIVISION</b> </p> <p> <b>13000-11 DIVISION</b> </p> <p> <b>13000-11 DIVISION</b> </p> <p> <b>13000-11 DIVISION</b> </p>																			

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"Polarimetric Method of Studying the Structure of the Ionized Layers,"  
Usp. Fiz. Nauk, 19, No.2, pp. 183-93, 1938

Translation ATIC-242123  
F-TS-8854, III



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Polyarizatsiya zelenoy linii svecheniya nochnogo neba (Polarization of the Green Line of the Night Sky Luminescence). Akademiya Nauk SSSR. Doklady, 1938, v. 21, no. 7, p. 326-329.

AS262.53663 v. 21

KHVOSTIKOV, I. A.

"The Twilight Photoluminescence of the Earth's Atmosphere," Iz. Ak. Nauk SSSR,  
Ser. geograf. i geofiz., No.2, pp. 175-182, 1939

Inst. Theoretical Geophysics, AS USSR

Translation 563845

KHVOSTIKOV, I. A., YERSHOVA, N. D. and MIKHAYLIN, I. M.

"Measurements of the Brightness of the Green Line of the Night Sky," Iz. Ak.  
Nauk SSSR, Ser. geograf. i geofiz., No.2, pp. 217-21, 1939

Inst. Theoretical Geophysics, AS USSR

Translation 563844



TEST AND PROPERTIES INDEX																													
<p><i>Handwritten: R</i></p> <p><b>Luminescence spectra of the night sky in the ultra-violet region.</b> P. P. DOBRONRAVIN and I. A. CHVOSTIKOV (Compt. rend. Acad. Sci. U.R.S.S., 1939, 23, 233-237).—Solar short-wave spectra have been photographed for day, night, and twilight using a spectrograph fitted with a slit-reducing attachment. Three series of photographs have been obtained which show that the intensity of the ultra-violet light in the night-sky spectra is &gt; those of day and twilight. This may be due to conditions favourable to the dispersion of short-wave solar radiation in the outer atm. layers. W. R. A.</p> <p><i>Handwritten: Trans ATIC 235226</i></p> <p>ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>																													
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KHVOSTIKOV, I. A., E. N. MAGID and A. A. SHUBIN

Issledovaniye spektral'nogo sostava sumerechnogo sveta (Investigation of the Spectral Composition of Twilight Luminescence). Akademiya Nauk SSSR. Izvestiya. Seriya geogr. i geofiz., 1940, p. 675, tables, diags., 6 refs. Summary in German.

AS262.A6246 1940

KHVOSTIKOV, I. A., A. YA. DRIVING and PEVUNOVA, O. A.

Izmereniye spektral'noy prozrachnosti atmosfery v nochnykh usloviyakh (Investigation of the Spectral Transparency of the Atmosphere at Night). Akademiya Nauk SSSR. Izvestiya. Seriya geogr. i geofiz., 1940, no. 5, p. 685-690, diags., Summary in German.

AS262.A6246 1940

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"Concerning the Relationship of the Anemolies of the Half-Day with the Conditions of the Ionosphere," Dok. AN, 26, No. 9, 1940.

Br. Ab.

AT 2, Molecular It.

Polarization of lines emitted in the spectrum of the night sky.  
I. A. Chyostikov, (*Compt. rend. Acad. Sci. U.R.S.S.*, 1940, 27, 219—  
222).—The degree of polarization and orientation of the plane of  
polarization and their variation with time have been measured for  
the O<sub>2</sub> lines 5577 and 5300 Å. and the Na line 5890 Å. emitted by  
the night sky. All lines are polarized throughout the night, the  
degree of polarization varying between 9 and 17%. The orientation  
of the plane of polarization varies throughout the night, following  
the movement of the sun below the horizon. The emission of these  
lines may be due to photoluminescence excited by solar radiation  
of λλ close to the region of absorption by the atm., which may pene-  
trate the lower layers of the atm. on account of its high refractive  
index for these λλ. O. D. S.

Translation 568500

1st and 2nd Orders										Processes and Properties Index									
<p>BC</p>										<p>17-1</p>									
<p>Polarization of the light of the night sky in the ultra-violet region of the spectrum. I. A. Chuvpilo and A. A. Schulkin (<i>Compt. rend. Acad. Sci. U.R.S.S.</i>, 1940, 27, 223-228).—The degree of polarization of the ultra-violet light emitted by the night sky has been measured by means of apparatus oriented on the assumption that the plane of polarization varies with the position of the sun below the horizon (cf. preceding abstract). Degrees of polarization from 0 to 27% were observed and appeared to depend on the clearness of the atm.</p>																			
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"Some Questions on the Optics of the Fogs," Iz. Ak. Nauk SSSR, Ser. Geograf. i. Geofiz., Nos. 1-6, 1942.

KHVOSTIKOV, I. A.

"Investigation of the Optical and Physical Properties of Natural Fog," A. Ya. Driving, A. V. Mironov, V. M. Morosov, and I. A. Khvostikov, Bull Acad. Sci., USSR, Ser Geograph and Geophys., 1943, 70-82;

Observations were made on the polarization of the light scattered by the mist at various angles and on the absorption of light in natural mists. The results do not agree with theoretical values. In order to explain the discrepancy between the observed and the theoretical values a hypothesis is advanced which assumes the presence of "submicroscopic" droplets in the mist or fog.

M.G. Moore



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"Of the Investigation of Atmosphere with the Aid of a searchlight Ray," Iz. Ak.  
Nauk SSSR, Ser. Geograf. i Geofiz. No. 5-6, 1945.

Lab. of Atmospheric Optics, Inst. of Theoretical Geophysics, AS

KHVOSTIKOV, I. A. and A. M. SEMCHINOVA

Dal'nost' deystviya prozhektorov i opticheskaya neodnorodnost' atmosfery (Effective Range of Action of Searchlights and the Optic Inhomogeneousness of Atmosphere). Akademiya Nauk SSSR. Izvestiya. Seriya geogr. i geofiz., 1945, v. 9, no. 5-6, p. 425-440, diags., 5 refs. Summary in English.

AS262.A6246 v. 9

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<p>331.993.5: 535.43 - 22</p> <p>2729</p> <p><u>Optical study of the atmosphere by moonlight.</u></p> <p><u>Kawaguchi, T. A.</u> Bull. Acad. Sci. URSR Ser. Phys.,          (1944) 14 (1944) 14. Russian.—The author surveys          previous work on optical scattering by the atmosphere          based on the use of powerful moonlight. New results          are described on the polarization, intensity and spectral          distribution of light scattered at heights up to 35 km.</p> <p>D. A.</p>																														<p>Atmospheric optics</p>																																							
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XHVOSTIKOV, I. A.

"Sodium in the Stratosphere," Usp. fiz. nauk, No.30, pp. 188-90, 1946

Translation 568494

KHVOSTIKOV, I. A.

"A Method for Determining Refraction in Precise Geodetic Measurements,"  
Dok. AN 51, No 5, 1946.

Moscow Inst. Eng. Geodesy, Air-Survey and Cartography

KHVOSTIKOV, I. A.

PA 21T114

USSR/ Physics  
Polarization  
Light-Polarization

Sep 1946

"Photographing the Tropopause in Polarized Light, " I. I. Romantsov, I. A. Khvostikov,  
Laboratory of Atmospheric Optics, Institute of Theoretical Geophysics, Academy of  
Sciences of the USSR, 3 pp

"Comptes Rendus (Doklady)" Vol LIII, No 8

A discussion is made of several investigations into the tropopause (the area between stratosphere and troposphere) which were performed by means of a powerful searchlight beam directed up 60 degree to the horizon and by a camera placed 7.6 km away. Four graphs are given, showing the dependence of brightness (degree of polarization) upon height in km above ground.

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<p>Investigation of the atmosphere by means of a searchlight beam to altitudes of up to 35 km. <b>MILKMAN, L. N. AND KAYOMOV, I. A. C.R. Acad. Sci. U.S.S.R. (No. 3) 223-3 (1948).</b>—The previous "ceiling" of 34 km in the investigation of the atmosphere by a searchlight beam, has been extended to 35 km by utilizing the difference in the night sky brightness in various zones of the spectrum. The range 4 500-5 500 Å is well suited for taking photographs of the beam with the night sky as background. The scattering capacity of the air at various heights was determined, there being an inversion between 25 and 30 km. Density and temperature values of the atmosphere up to altitudes of 5 km may be determined from data obtained with a searchlight beam.</p> <p style="text-align: right;">L. R. G.</p>																																																																																																																				
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<p>351. Method for optical investigation of the atmosphere under daylight conditions by means of a searchlight beam. <i>Shalimov, A. V.</i> <i>Tr. Vsesoyuzn. Nauch. Ispyt. St. Odesk. St. Univ.</i> 1954, 4 (1954), 2, 10-12. A method is suggested by means of which daylight investigations of the atmosphere may be carried out up to heights of 10-12 km. A searchlight beam, using ultraviolet rays of wavelength less than <math>0.25 \mu</math>, is employed, the daylight sky causing no interference at such wavelengths owing to the absorption of short radiation by <math>O_3</math>. For examination of the reflected and scattered light a photo-electric counter is used. The circuit details of this are given and some measurements of the intensity of scattered light at various heights are briefly reported.</p> <p style="text-align: right;">L. S. G.</p> <p style="text-align: center;"><i>Atmospheric optics</i></p>																													
<p>ASB-55-A METEOROLOGICAL LITERATURE CLASSIFICATION</p>																													



KHVOSTIKOV, I. A. (Prof.)

"About searchlight as a tool for investigation of upper atmosphere in daylight,"  
Znaniya Sila, Moscow (July 1947)

Geophysical institute

1. KHVOSTIKOV, I. A.
2. USSR (600)
4. Physics and Mathematics
7. Spectral Reflecting Capacity of Natural Formations, Ye. L. Krinov.  
(Press of Acad Sci USSR, 1947). Reviewed by I. A. Khvostikov, Sov. Kniga,  
No. 3, 1948.
9. ~~SECRET~~ Report U-3081, 16 Jan. 1953, Unclassified.

KHVOSTIKOVA, I.A. [translator]; DOBSON, G.M.B.; BREWER, A.W.; CWILONG, B.M.,  
[authors].

Meteorology of lower atmospheric layers (From: Proc. Roy. Soc. A, 185,  
144-175, 1946; translated by I.A. Khvostikova). G.M.B. Dobson, A.W. Brew  
B.M. Cwilog. Usp. fiz. nauk 31 no.1:96-128 '47. (MIRA 6:12)  
(Atmosphere) (Meteorology)

KHVOSTIKOV, I. A.

PA 53T39

USSR/Geophysics  
Ionosphere  
Nitrogen

Dec 1947

"Infrared Illumination of Night Skies and the Dissociation of Nitrogen in the Ionosphere," I. A. Khvostikov, 31 pp

"Uspehi Fiz Nauk" Vol XXXIII, No 4

Discusses discovery of new emissions; determination of wave lengths of new emissions; atomic nitrogen; results obtained by Dufay, Bernard, and Kaplan; dissociations of Dufay and Bernard; spectrum of northern lights of low latitudes; true nature of the emissions of forbidden lines; dissociation of nitrogen in upper layers of atmosphere; degree of dissociation of nitrogen molecule in field of northern lights; emissions of atomic nitrogen; identification of infrared illumination of night skies; and band (0.0) of first positive system of nitrogen.

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